

N60200.AR.008973  
NAS CECIL FIELD  
5090.3a

SITE ASSESSMENT REPORT BUILDING 367 TANK 367 BASE REALIGNMENT AND  
CLOSURE UNDERGROUND STORAGE TANK AND ABOVEGROUND STORAGE TANK  
GREY SITES NAS CECIL FIELD FL  
10/1/1998  
HARDING LAWSON ASSOCIATES

**SITE ASSESSMENT REPORT**

**BUILDING 367, TANK 367**

**BASE REALIGNMENT AND CLOSURE**

**UNDERGROUND STORAGE TANK AND  
ABOVEGROUND STORAGE TANK GREY SITES**

**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**

**Unit Identification Code: N60200**

**Contract No.: N62467-89-D-0317/090**

**Prepared by:**

**Harding Lawson Associates  
2590 Executive Center Circle, East  
Tallahassee, Florida 32301**

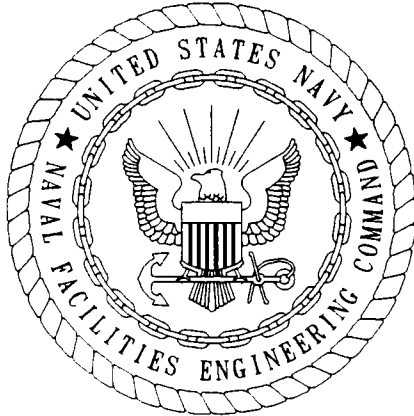
**Prepared for:**

**Department of the Navy, Southern Division  
Naval Facilities Engineering Command  
2155 Eagle Drive  
North Charleston, South Carolina 29418**

**Bryan Kizer, Code 1842, Engineer-in-Charge**

**October 1998**

**Revision 0.0**



CERTIFICATION OF TECHNICAL  
DATA CONFORMITY (MAY 1987)

The Contractor, Harding Lawson Associates, hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/090 are complete and accurate and comply with all requirements of this contract.

DATE: September 28, 1998

NAME AND TITLE OF CERTIFYING OFFICIAL: Rao Angara  
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Eric A. Blomberg, P.G.  
Project Technical Lead

(DFAR 252.227-7036)

## TABLE OF CONTENTS

Site Assessment Report  
Building 367, Tank 367  
Naval Air Station Cecil Field  
Jacksonville, Florida

<u>Chapter</u>	<u>Title</u>	<u>Page No.</u>
1.0	INTRODUCTION . . . . .	1
2.0	FIELD INVESTIGATION . . . . .	1
3.0	SCREENING AND ANALYTICAL RESULTS . . . . .	5
4.0	CONCLUSIONS AND RECOMMENDATIONS . . . . .	5

### REFERENCES

### APPENDICES

Appendix A: Monitoring Well Installation Detail  
Appendix B: Analytical Results

## LIST OF FIGURES

Site Assessment Report  
Building 367, Tank 367  
Naval Air Station Cecil Field  
Jacksonville, Florida

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1	Tank 367, Storage Shed for Building 364 . . . . .	2
2	Tank 367, Soil Boring and Monitoring Well Locations . . . . .	3

## LIST OF TABLES

<u>Table</u>	<u>Title</u>	<u>Page No.</u>
1	Monitoring Well Construction Summary and Groundwater Elevation Data	4
2	Soil Screening Results . . . . .	6
3	Summary of Subsurface Soil Analytical Detections . . . . .	7
4	Summary of Groundwater Analytical Detections . . . . .	8

## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
FDEP	Florida Department of Environmental Protection
HLA	Harding Lawson Associates
KAG	Kerosene Analytical Group
OVA	organic vapor analyzer
PWC	Public Works Center
SA	site assessment
UST	underground storage tank

## 1.0 INTRODUCTION

Harding Lawson Associates (HLA), under contract to the Southern Division, Naval Facilities Engineering Command, has completed the site assessment (SA) for Tank 367 at Naval Air Station Cecil Field in Jacksonville, Florida. This report summarizes the related field operations, results, conclusions, and recommendations of the SA.

Tank 367 was an underground storage tank (UST) located at Building 367, a general storage shed (Figure 1). The UST had a capacity of 500 gallons and was formerly associated with a boiler furnace in Building 364 (ABB Environmental Services, Inc. [ABB-ES], 1997a). A Contamination Assessment Plan for the assessment of soil and groundwater at Tank 367 was prepared by HLA (then ABB-ES) in November 1996 (ABB-ES, 1996). Results of the contamination assessment are presented in the Confirmatory Sampling Report, which recommended that an SA be conducted to delineate the extent of excessively contaminated soil, free product, and groundwater contamination (ABB-ES, 1997b).

Tank 367 was removed by the Navy Public Works Center (PWC), Pensacola, February 28, 1997. Approximately 18 cubic yards of excessively contaminated soil were removed from the site. A Closure Report was prepared for Tank 367 and submitted to the Florida Department of Environmental Protection (FDEP) (Navy PWC, 1997).

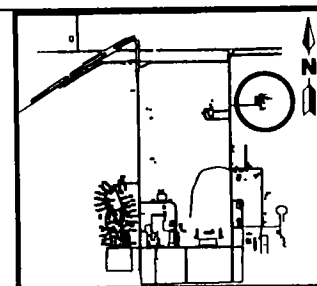
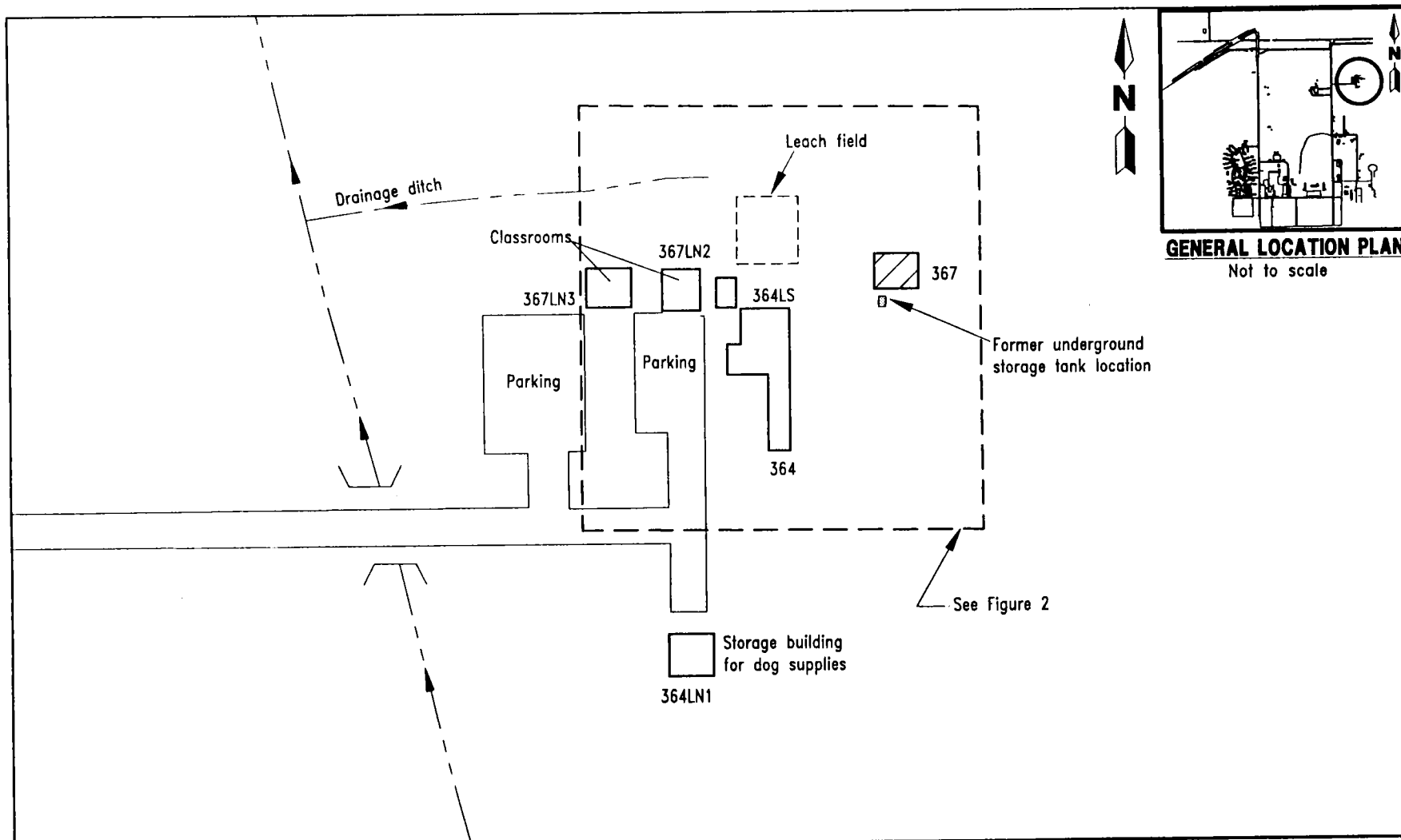
## 2.0 FIELD INVESTIGATION

The SA for Tank 367 was initiated in November 1997 and included

- the advancement of seven soil borings to the water table,
- installation of one deep and three shallow monitoring wells, and
- collection and analysis of two subsurface soil and four groundwater samples.

Soil samples were collected from each boring at depth intervals of 1 foot below land surface (bls) and every 2 feet thereafter to the water table. These samples were screened for hydrocarbon vapors using an organic vapor analyzer (OVA). Two subsurface soil samples were collected on April 21, 1998, at soil boring locations with varying levels of contamination and analyzed for the Kerosene Analytical Group (KAG) parameters. Samples CEF-367-SB2L and CEF-367-SB3H were collected from 2 to 3 feet bls and from 3 to 4 feet bls, respectively.

One shallow monitoring well, CEF-367-2S, was installed south of the tank location near soil boring CEF-367-SB5 to a depth of 12 feet bls. This monitoring well replaced well CEF-367-1S, which was destroyed during the tank removal. Two additional shallow monitoring wells, CEF-367-3S and CEF-367-4S, were installed downgradient of the former tank location. The deep source monitoring well CEF-367-5D was installed immediately downgradient of the source area and screened between 25 and 30 feet bls. The downgradient locations were selected based on the groundwater flow direction, which was assessed by measuring water levels in piezometers. A general site plan indicating the locations of the soil borings and the monitoring well locations is presented on Figure 2. The monitoring well installation detail is summarized in Table 1 and included in Appendix A.



**GENERAL LOCATION PLAN**

Not to scale

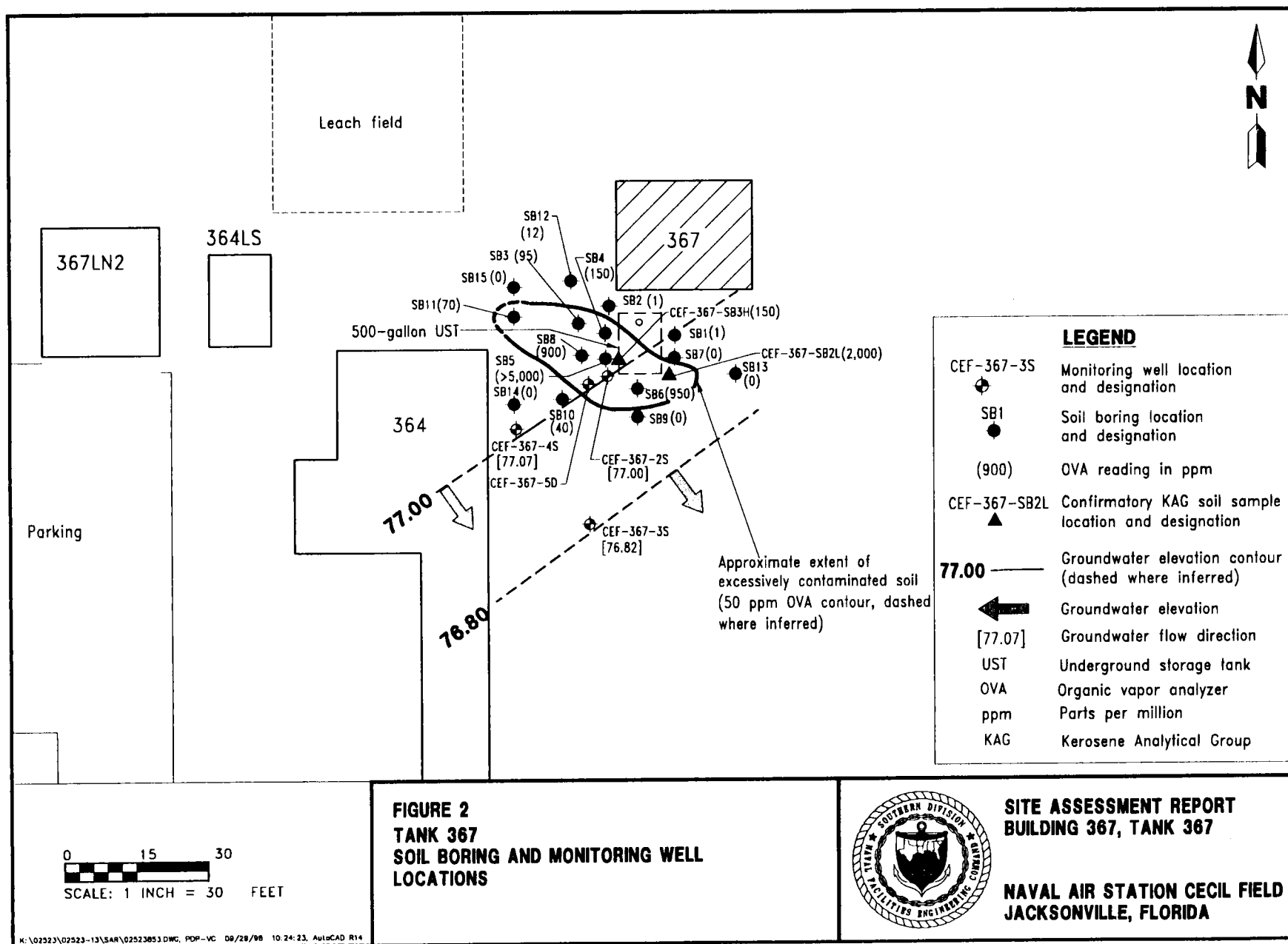
**FIGURE 1  
TANK 367  
STORAGE SHED FOR BUILDING 364**



**SITE ASSESSMENT REPORT  
BUILDING 367, TANK 367**

**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**





**Table 1**  
**Monitoring Well Construction Summary and Groundwater Elevation Data**

Site Assessment Report  
 Building 367, Tank 367  
 Naval Air Station Cecil Field  
 Jacksonville, Florida

Monitoring Well No.	Total Well Depth (feet bls)	Screened Interval (feet bls)	TOC Elevation (feet NGVD)	September 9, 1998	
				Depth to Water (feet BTOC)	Water-Level Elevation (feet NGVD)
CEF-367-1S	Destroyed	--	--	--	--
CEF-367-2S	12	2 to 12	78.14	1.14	77.00
CEF-367-3S	12	2 to 12	78.09	1.27	76.82
CEF-367-4S	12	2 to 12	78.96	1.89	77.07
CEF-367-5D	30	25 to 30	78.48	1.78	76.70

Notes: bls = below land surface.  
 TOC = top of casing.  
 NGVD = National Geodetic Vertical Datum, 1929.  
 BTOC = below top of casing.  
 -- = not applicable.

### 3.0 SCREENING AND ANALYTICAL RESULTS

Groundwater flow direction was initially assessed (with piezometers) to be to the southwest. The groundwater flow direction identified during the SA was to the southeast. The groundwater at the Tank 367 site is very shallow (less than 2 feet below land surface), and it appears that the groundwater flow direction may vary throughout the year as a function of rainfall and groundwater recharge.

Excessively contaminated soil (greater than 50 parts per million on an OVA) was not detected in the seven soil borings advanced during the SA. The extent of excessively contaminated soil is presented on Figure 2. The soil OVA data are summarized in Table 2 and presented on Figure 2.

No contaminants were detected above FDEP soil cleanup target levels in the subsurface soil samples collected for KAG analysis. Subsurface soil analytical results are summarized in Table 3 and presented in Appendix B.

Free product with an apparent thickness of 1.14 feet was measured in monitoring well CEF-367-1S during the confirmatory sampling. No free product was detected during the SA.

No contaminants were detected at concentrations above cleanup target levels in groundwater samples collected from monitoring wells at the Tank 367 site. However, benzene and naphthalene were detected in groundwater collected from monitoring well CEF-367-2S at concentrations equal to cleanup target levels. Analytical results are summarized in Table 4 and presented in Appendix B.

### 4.0 CONCLUSIONS AND RECOMMENDATIONS

Groundwater flow direction varies from southwest to southeast.

Data obtained during the confirmatory sampling at the Tank 367 site provided an adequate assessment of the horizontal and vertical extent of excessively contaminated soil.

No contaminants were detected above FDEP soil cleanup target levels in the subsurface soil samples collected for KAG analysis.

No contaminants were detected at concentrations above FDEP groundwater cleanup target levels in groundwater samples collected from monitoring wells for KAG analysis. However, benzene and naphthalene were detected in monitoring well CEF-367-2S at concentrations equal to the cleanup target levels.

Based on the results of the SA, it is recommended that groundwater monitoring only for natural attenuation take place at the Tank 367 site. An additional monitoring well may be required southeast of the former tank location for groundwater monitoring. It is recommended that monitoring wells CEF-367-2S, CEF-367-3S, CEF-367-4S, and an additional well southeast of the source area be monitored for volatile organic compounds (USEPA Method 602) and semivolatile organic compounds (USEPA Method 610) on a semiannual basis. The groundwater monitoring should continue until contaminant concentrations are below FDEP cleanup target levels for two consecutive sampling events.

**Table 2**  
**Soil Screening Results**

Site Assessment Report  
Building 367, Tank 367  
Naval Air Station Cecil Field  
Jacksonville, Florida

Location	OVA Concentration (ppm)			
	Depth (feet bls)	Unfiltered	Filtered	Actual
SB1	1.5	0	—	0
	3 (moist)	1	—	1
SB2	1	1	—	1
	3	0	—	0
SB3	1	10	0	10
	3	95	0	95
SB4	1	0	—	0
	2.5	150	0	150
SB5	1	0	—	0
	2.5	>5,000	0	>5,000
SB6	1	90	0	90
	2.5	950	0	950
SB7	1	0	—	0
	2	0	—	0
SB8	1	110	0	110
	2	900	0	900
CEF-367-1S	2	180	—	180
	4 (moist to wet)	1,100	—	1,100
SB9	1	0	—	0
	3 (wet)	0	—	0
SB10	1	0	—	0
	3 (wet)	240	200	40
SB11	1	0	—	0
	3 (wet)	100	30	70
SB12	1	0	—	0
	3 (wet)	18	6	12
SB13	1	0	—	0
	3 (wet)	0	—	0
SB14	1	0	—	0
	3 (wet)	0	—	0
SB15	1	0	—	0
	3 (wet)	0	—	0

Notes: Soil samples were collected on January 14 and November 5, 1997.  
Soil samples were filtered with carbon to determine the methane concentration.

OVA = organic vapor analyzer.

ppm = parts per million.

bls = below land surface.

— = filtered readings were not collected.

moist = soil sample was partially saturated when analyzed.

> = greater than.

wet = soil sample was completely saturated when analyzed.

## REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1996. *Contamination Assessment Plan, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (November).
- ABB-ES. 1997a. *Base Realignment and Closure Tank Management Plan, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (January).
- ABB-ES. 1997b. *Confirmatory Sampling Report, Building 367, Tank 367, Base Realignment and Closure, Underground Storage Tank and Aboveground Storage Tank Grey Sites, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (November).
- Navy Public Works Center, Pensacola. 1997. *Closure Assessment Underground Storage Tank Building 364, Naval Air Station Cecil Field, Jacksonville, Florida* (April).

## **APPENDIX A**

### **MONITORING WELL INSTALLATION DETAIL**

**Table 3**  
**Summary of Subsurface Soil Analytical Detections**

Site Assessment Report  
Building 367, Tank 367  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	CEF-367-SB2 (2 to 3 ft bls; OVA = 2,000 ppm)	CEF-367-SB3 (3 to 4 ft bls; OVA = 150 ppm)	Soil Cleanup Target Levels <sup>1</sup>
<b><u>Volatile Organic Aromatics (USEPA Method 8020) (mg/kg)</u></b>			
No compounds detected			
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 8310) (mg/kg)</u></b>			
Fluoranthene	0.0063	0.018	2,800/550
Pyrene	ND	0.0092	2,200/570
<b><u>Total Recoverable Petroleum Hydrocarbons (TRPH) (FL-PRO) (mg/kg)</u></b>			
TRPH	ND	40	350/340
<sup>1</sup> Chapter 62-770, Florida Administrative Code for Direct Exposure, Table 1/Leachability, Table V.  Notes: Soil sample was collected on April 21, 1998.  ft = feet. bls = below land surface. OVA = organic vapor analyzer. ppm = parts per million. USEPA = U.S. Environmental Protection Agency. mg/kg = milligrams per kilogram. ND = not detected. FL-PRO = Florida-Petroleum Residual Organics.			

**Table 4**  
**Summary of Groundwater Analytical Detections**

Site Assessment Report  
Building 367, Tank 367  
Naval Air Station Cecil Field  
Jacksonville, Florida

Compound	Monitoring Wells				Groundwater Cleanup Target Levels <sup>1</sup>
	CEF-367-2S	CEF-367-3S	CEF-367-4S	CEF-367-5D	
<b><u>Volatile Organic Aromatics (USEPA Method 601/602) (µg/l)</u></b>					
Benzene	1	ND	ND	ND	1
Ethylbenzene	6	ND	ND	ND	30
<b><u>Polynuclear Aromatic Hydrocarbons (USEPA Method 610) (µg/l)</u></b>					
1-Methylnaphthalene	24	ND	ND	ND	NA
2-Methylnaphthalene	13	ND	ND	ND	NA
Acenaphthene	3.8	ND	ND	ND	20
Fluorene	1.1	ND	ND	ND	280
Naphthalene	20	ND	ND	ND	20
Phenanthrene	0.74	ND	ND	ND	210
<b><u>Total Recoverable Petroleum Hydrocarbons (FL-PRO) (mg/l)</u></b>					
No compounds detected					
<sup>1</sup> Chapter 62-770, Florida Administrative Code.					
Notes: Groundwater samples were collected on June 18, 1998, and September 9, 1998.					
USEPA = U.S. Environmental Protection Agency. µg/l = micrograms per liter. FL-PRO = Florida-Petroleum Residual Organics. mg/l = milligrams per liter.					



TITLE: NAS Cecil Field, Bldg. 367, Site Assessment Report		LOG of WELL: CEF-367-2S		BORING NO. CEF-367-2S	
CLIENT: SOUTHDIIVNAVFACENGCOM				PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling			DATE STARTED: 02-12-98		COMPLTD: 02-12-98
METHOD: HSA		CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.		PROTECTION LEVEL: D
TOC ELEV.: 78.14 FT.		MONITOR INST.: FID	TOT DPTH: 12.5FT.		DPTH TO $\nabla$ N/A FT.
LOGGED BY: J Tarr		WELL DEVELOPMENT DATE: 02-13-98			SITE: Building 367

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					<> see note		SM		
2				1500	SILTY SAND: light brown to gray, fine grain, slightly clayey.			posthole	
3									
4				1200				posthole	
5									
6									
7									
8				1000				*	
9								**	
10				1200	SILTY SAND: light gray, fine grain.				
11									
12				400					
13					<> soil description taken from CEF-367-50				
14					* no split spoon samples taken				
15					** OVA reading taken from auger cuttings				

TITLE: NAS Cecil Field, Bldg. 367, Site Assessment Report		LOG of WELL: CEF-367-3S	BORING NO. CEF-367-3S
CLIENT: SOUTH DIV NAVFACENCOM			PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling		DATE STARTED: 02-12-98	COMPLTD: 02-12-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.	PROTECTION LEVEL: D
TOC ELEV.: 78.09 FT.	MONITOR INST.: FID	TOT DPTH: 12.5 FT.	DPTH TO $\nabla$ 5.48 FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-13-98		SITE: Building 367

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					<> see note		SM		
2				1500	SILTY SAND: light brown to gray, fine grain, slightly clayey.			posthole	
3									
4				200				posthole	
5									
6									
7									
8				13				*	
9								**	
10					SILTY SAND: light gray, fine grain.				
11									
12				5					
13					<> soil description taken from CEF-367-5D				
14					* no split spoon samples taken				
15					** OVA reading taken from auger cuttings				

TITLE: NAS Cecil Field, Bldg. 367, Site Assessment Report		LOG of WELL: CEF-367-4S	BORING NO. CEF-367-4S
CLIENT: SOUTH DIV NAVFACENGCOM			PROJECT NO: 02523.13
CONTRACTOR: Custom Drilling		DATE STARTED: 02-12-98	COMPLTD: 02-12-98
METHOD: HSA	CASE SIZE: 2in.	SCREEN INT.: 2-12 ft.	PROTECTION LEVEL: D
TOC ELEV.: 78.96 FT.	MONITOR INST.: FID	TOT DPTH: 12.5 FT.	DPTH TO V 5.85 FT.
LOGGED BY: J Tarr	WELL DEVELOPMENT DATE: 02-13-98		SITE: Building 367

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1					<> see note		SM		
2				0	SILTY SAND: light brown to gray, fine grain, slightly clayey.			posthole	
3									
4				0				posthole	
5									
6									
7									
8				3				*	
9								**	
10					SILTY SAND: light gray, fine grain.				
11									
12				0					
13					<> soil description taken from CEF-367-5D				
14					* no split spoon samples taken				
15					** OVA reading taken from auger cuttings				

TITLE: NAS Cecil Field, Bldg. 367, Site Assessment Report		LOG of WELL: CEF-367-5D		BORING NO. CEF-367-5D	
CLIENT: SOUTH DIVNAVFACENGCOM				PROJECT NO: 02523.13	
CONTRACTOR: Custom Drilling			DATE STARTED: 03-16-98		COMPLTD: 03-25-98
METHOD: HSA		CASE SIZE: 2in.	SCREEN INT.: 25-30ft.		PROTECTION LEVEL: D
TOC ELEV.: 78.48 FT.		MONITOR INST.: FID	TOT DPTH: 30.5FT.		DPTH TO $\nabla$ 5.65 FT.
LOGGED BY: J Tarr		WELL DEVELOPMENT DATE: 03-27-98			SITE: Building 367

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
1							SM		
2				120				posthole	
3								posthole	
4									
5									
6			50%	5	SILTY SAND: light brown to gray, fine grain, slightly clayey.			6,8,10,8	
7									
8									
9									
10									
11			75%	24	SILTY SAND: light gray, fine grain.			4,4,3,4	
12									
13									
14									
15									
16			100%	10				2,3,3,3	
17									
18									
19									
20									
21			100%	8				3,2,1,3	
22									
23									
24									
25									
26									
27									
28									
29									
30									
31									
32									
33									
34									
35									

**APPENDIX B**  
**ANALYTICAL RESULTS**

NAS CECIL FIELD -- TANK 367  
GROUNDWATER DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10262

Lab Sample Number: JR31631  
Site UST GREY  
Locator CEF-367-2S  
Collect Date: 09-SEP-98

VALUE QUAL UNITS DL

Pyrene .05 U ug/l .05

FLA PRO  
TPH C8-C40 .4 U mg/l .4

U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- UST GREY TANK 367  
GROUNDWATER DATA -- REPORT REQ NO. 10061

Lab Sample Number: A8F1901630  
Site: UST GREY  
Locator: CEF-367-3S  
Collect Date: 18-JUN-98

A8F1901630  
UST GREY  
CEF-367-4S  
18-JUN-98

A8F1901630  
UST GREY  
CEF-367-5D  
18-JUN-98

VALUE QUAL UNITS DL VALUE QUAL UNITS DL VALUE QUAL UNITS DL

BETX AND DICHLOROBENZENES

Benzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Ethylbenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Toluene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Xylenes (total)	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
1,4-Dichlorobenzene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

PAHs

Acenaphthene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Acenaphthylene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Anthracene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Benzo (a) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (b) fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (k) fluoranthene	.05 U	ug/l	.05	.05 U	ug/l	.05	.05 U	ug/l	.05
Benzo (a) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Chrysene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Dibenzo (a,h) anthracene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluoranthene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Fluorene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Indeno (1,2,3-cd) pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
Naphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Phenanthrene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
Pyrene	.1 U	ug/l	.1	.1 U	ug/l	.1	.1 U	ug/l	.1
1-Methylnaphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1
2-Methylnaphthalene	1 U	ug/l	1	1 U	ug/l	1	1 U	ug/l	1

FLA PRO

TPH C8-C40	.5 U	mg/l	.5	.5 U	mg/l	.5	.5 U	mg/l	.5
------------	------	------	----	------	------	----	------	------	----

U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- TANK 367  
SOIL DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 9945

Lab Sample Number:	A8D2201500	A8D2201500	
Site	UST GREY	UST GREY	
Locator	CEF-367-SB2	CEF-367-SB3	
Collect Date:	21-APR-98	21-APR-98	
	VALUE QUAL UNITS DL	VALUE QUAL UNITS DL	

UST GREY						
Benzene	1.2 U	ug/kg	1.2	12 U	ug/kg	12
Ethylbenzene	1.2 U	ug/kg	1.2	12 U	ug/kg	12
Toluene	1.2 U	ug/kg	1.2	12 U	ug/kg	12
Xylenes (total)	1.2 U	ug/kg	1.2	12 U	ug/kg	12
Acenaphthene	240 U	ug/kg	240	240 U	ug/kg	240
Acenaphthylene	240 U	ug/kg	240	240 U	ug/kg	240
Anthracene	240 U	ug/kg	240	240 U	ug/kg	240
Benzo (a) anthracene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Benzo (a) pyrene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Benzo (b) fluoranthene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Benzo (g,h,i) perylene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Benzo (k) fluoranthene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Chrysene	24 U	ug/kg	24	24 U	ug/kg	24
Dibenzo (a,h) anthracene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Fluoranthene	6.3	ug/kg	5.9	18 J	ug/kg	6
Fluorene	240 U	ug/kg	240	240 U	ug/kg	240
Indeno (1,2,3-cd) pyrene	5.9 U	ug/kg	5.9	6 U	ug/kg	6
Naphthalene	240 U	ug/kg	240	240 U	ug/kg	240
Phenanthrene	240 U	ug/kg	240	240 U	ug/kg	240
Pyrene	5.9 U	ug/kg	5.9	9.2	ug/kg	6
FLA PRO						
TPH C8-C40	12 U	mg/kg	12	40	mg/kg	12

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE



NAS CECIL FIELD -- TANK 367  
GROUNDWATER DATA -- KEROSENE ANALYTICAL GROUP -- REPORT REQ NO. 10262

Lab Sample Number: JR31631  
Site: UST GREY  
Locator: CEF-367-2S  
Collect Date: 09-SEP-98

VALUE QUAL UNITS DL

UST COMPOUNDS

Benzene	1	ug/l	1
Ethylbenzene	6	ug/l	1
Toluene	1 U	ug/l	1
m,p-Xylene	1 U	ug/l	1
o-Xylene	1 U	ug/l	1
1,1,1-Trichloroethane	1 U	ug/l	1
1,1,2,2-Tetrachloroethane	1 U	ug/l	1
1,1,2-Trichloroethane	1 U	ug/l	1
1,1-Dichloroethane	1 U	ug/l	1
1,1-Dichloroethene	1 U	ug/l	1
1,2-Dichlorobenzene	1 U	ug/l	1
1,2-Dichloroethane	1 U	ug/l	1
1,2-Dichloropropane	1 U	ug/l	1
1,3-Dichlorobenzene	1 U	ug/l	1
1,4-Dichlorobenzene	1 U	ug/l	1
Bromodichloromethane	1 U	ug/l	1
Bromoform	1 U	ug/l	1
Bromomethane	1 U	ug/l	1
Carbon tetrachloride	1 U	ug/l	1
Chlorobenzene	1 U	ug/l	1
Chloroethane	2 U	ug/l	2
Chloroform	1 U	ug/l	1
Chloromethane	2 U	ug/l	2
Dibromochloromethane	1 U	ug/l	1
Dichlorodifluoromethane	1 U	ug/l	1
Methylene chloride	3 J	ug/l	2
Tetrachloroethene	1 U	ug/l	1
Trichloroethene	1 U	ug/l	1
Trichlorofluoromethane	2 U	ug/l	2
Vinyl chloride	1 U	ug/l	1
cis-1,3-Dichloropropene	1 U	ug/l	1
trans-1,2-Dichloroethene	1 U	ug/l	1
trans-1,3-Dichloropropene	1 U	ug/l	1
1-Methylnaphthalene	24	ug/l	.5
2-Methylnaphthalene	13	ug/l	.5
Acenaphthene	3.8	ug/l	.5
Acenaphthylene	.1 U	ug/l	.1
Anthracene	.5 U	ug/l	.5
Benzo (a) anthracene	.05 U	ug/l	.05
Benzo (a) pyrene	.05 U	ug/l	.05
Benzo (b) fluoranthene	.1 U	ug/l	.1
Benzo (g,h,i) perylene	.1 U	ug/l	.1
Benzo (k) fluoranthene	.05 U	ug/l	.05
Chrysene	.05 U	ug/l	.05
Dibenzo (a,h) anthracene	.1 U	ug/l	.1
Fluoranthene	.1 U	ug/l	.1
Fluorene	1.1	ug/l	.1
Indeno (1,2,3-cd) pyrene	.05 U	ug/l	.05
Naphthalene	20	ug/l	.5
Phenanthrene	.74	ug/l	.05